

# RFS-805

## Digital Modulator AV to COFDM

### User Manual

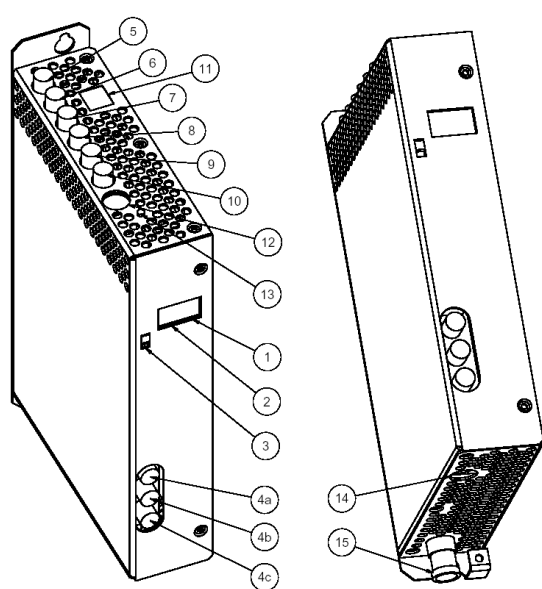


## 1. Purpose of use

RFS-805 is a digital modulator designed for a processing audio and video signals into COFDM (DVB-T) multiplex.

## 2. Installation

The connections and indications are shown in Fig 1.



1. Cable-TV S channel indicator led
2. IR detector and Channel number ( CCIR)
3. Control switch to program channel in ON position. The switch must be set to OFF (DOWN) position when programming is ready
4. VIDEO/AUDIO outputs for monitoring
5. Audio IN (right)
6. Audio IN (left)
7. RGB IN (blue) or YPbPr (Pb)
8. RGB IN (green) or YPbPr (Y)
9. RGB IN red or YPbPr (Pr)
10. Video IN and SCART SYNCHORIZING IN
11. USB port for software update
12. S-Video IN
13. When signal led is orange, the unit is initialized. When signal led is green, the outgoing stream is ready. Red led means overfull stream.
14. DC IN (only in stand-alone installation)
15. RF OUT + DC IN in RFT-800 system installation

RFS-805 can be mounted either to RFT-800 system (RFT-800 User Manual) or stand-alone. Do not cover the air passage holes.

Signals from AUDIO/VIDEO source are fed to Audio/Video connectors (RCA female).

When RFS-805 is mounted for RFT-800 system, the power voltage is supplied through active output combiner (RFC-808 or RFC-816).

When RFS-805 is mounted stand-alone, power supply unit is connected to DC IN connector.

When RFS-805 is mounted for RFT-800 system, cable to network is connected to active output combiner (RFC-808 or RFC-816).

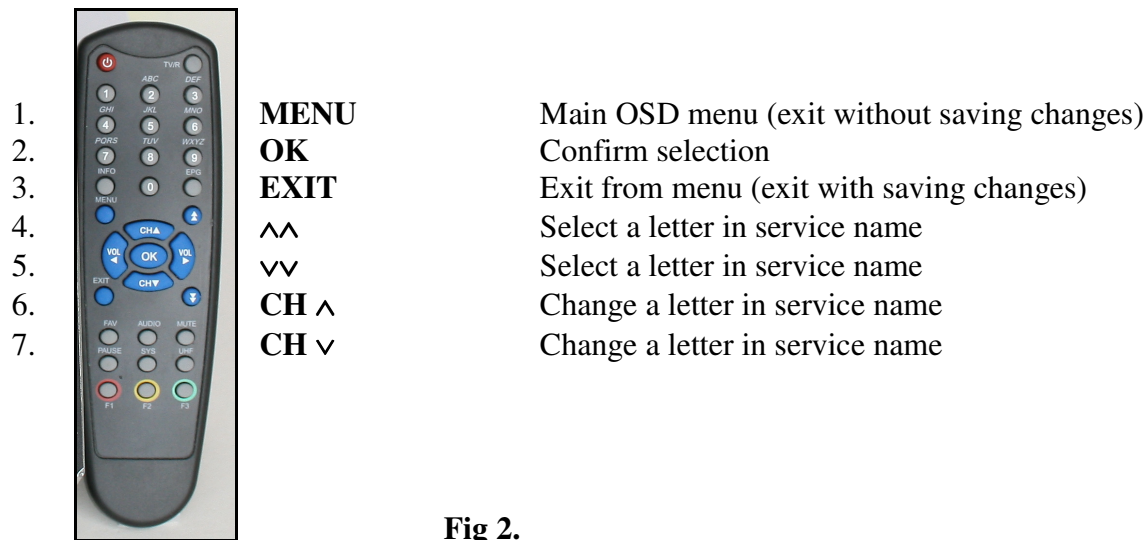
When RFS-805 is mounted stand-alone, RF OUT (15) is connected to cable network.

VIDEO/AUDIO connectors (4.) are for monitoring the unit while programming.

NOTE! If video input is not connect, there are white stripes in video output due to the missing sync pulse.

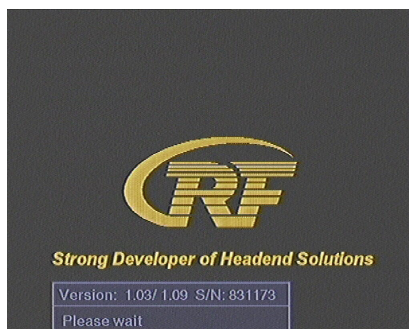
### 3. Programming

The modulator is simple to program with the remote control unit (RCU-800). The main functions of RCU are shown in Fig 2.



**Fig 2.**

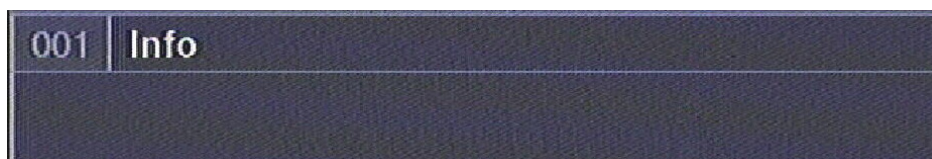
#### 3.1 Power-up



At power-up this welcome screen is displayed. Main SW and user interface SW version numbers plus unit serial number are shown.

When the unit is powered the display lights up showing selected output channel. The factory set channel is E21.

The display is switched off after 3 minutes. Two signal led indicate that the unit is powered. The display lights up again by pressing any button of remote controller unit.



The selected program info displayed and the channel opened.

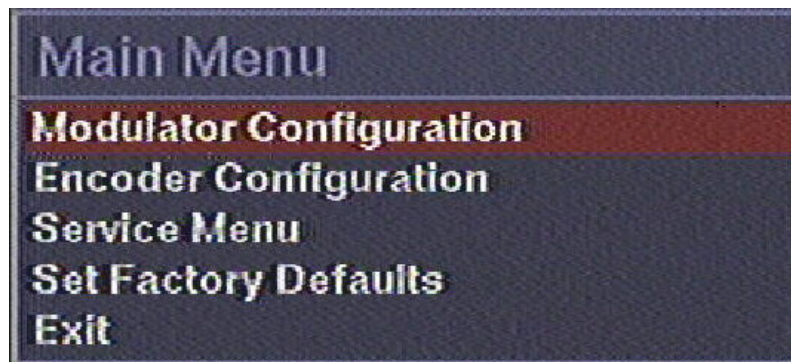
### 3.2 First time set-up

When using the unit for the first time, you must first connect video and audio source to audio/video inputs and then connect video output to monitor. After this you can continue set-up using on-screen menus.

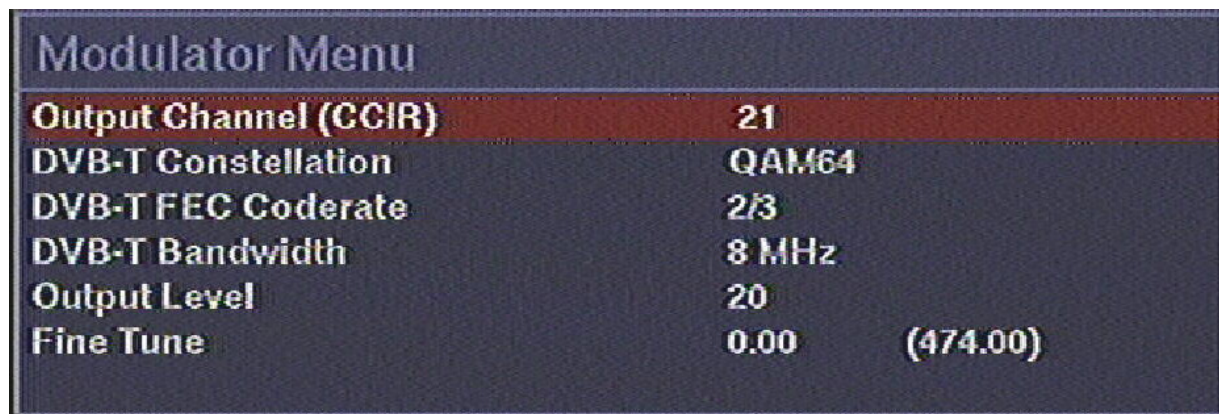
To control the unit first slide front panel switch to ON position. When programming is ready, the front panel switch must be slide to OFF position. This will prevent accidental changes to be made while controlling other units.

### 3.3 Set-up

To start set-up, press Menu key. Main Menu will be displayed.



Select “ Modulator Configuration”.



In Modulator menu can be selected:

- Output channel from S2 to E69
- DVB-T Constellation (QAM 64 is recommended)
- DVB-T FEC 1/2, 2/3, 3/4, 5/6 or 7/8 (3/4 is recommended)
- DVB-T Bandwidth 7 MHz or 8 MHz
- Output Level attenuator 0...20 dB (20 is maximum output level)
- Fine Tune of output frequency with 1 MHz steps

Select "Encoder Configuration"

Encoder Configuration	
Analogue Input Signal	Composite
TV Standard	PAL
Hor. Resolution	D1
GOP Size	12
GOP Structure	IBBP
Const. Bitrate	6.0
Audio Sample Freq.	48.0 kHz
Audio Bitrate	64 kbit/s
Audio ES Mode	Stereo

Following options can be selected:

- Input video signal Composite, S-video, RGB (synchronizing on GREEN), SCART RGB (synchronizing on VIDEO), YPbPr (synchronizing on GREEN), SCART YpbPr (Synchronizing on VIDEO),
- TV Colour Standard PAL or NTSC
- Hor. Resolution DI (full resolution 720\*576), HD1 (half resolution 360\*576) CIF (quarter resolution 360\*288)
- GOP Size 6,12,15,24 or 30 (maximum frames per GOP: 18 (NTSC) / 15 (PAL))
- GOP Structure I (each GOP consist only of I-frames), IP (the encoder uses one I-frame and then only P-frames inside a GOP), IBP (the encoder uses an I-frame at the beginning of the GOP and encodes the rest in B- and P-frames) or IBBP (the encoder uses an I-frame at the beginning of each GOP and encodes the rest in B- and P-frames)
- Const. Bitrate 1,5 Mbit/s, 2 Mbit/s, 4,5 Mbit/s or 6 Mbit/s
- Audio Sample Freq. 32,0 kHz, 44,1 kHz or 48 kHz
- Audio Bitrate 64 kbit/s, 128 kbit/s or 256 kbit/s
- Audio ES Mode Mono, Dual, Stereo

NOTE! The change of parameters are saved with "EXIT". If "MENU" is selected, the change of parameters is not saved.



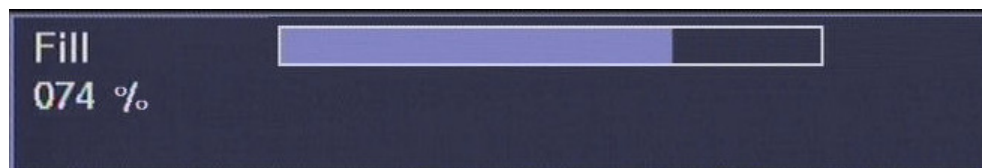
Select “Service Menu”

Service Menu	
Service Name	Info TV
PMT PID	30
Video PID	33
Audio PID	49
Program Number	1
Logical Channel Number	0
Output Transport Stream Id	0
Output Original Network Id	0

Following options can be selected:

- Service Name (Info is factory default). The name can be changed by selecting firstly a letter with double arrow UP/DOWN and then select a correct letter with single UP/DOWN arrow. Save the name with EXIT push button of RCU.
- PMT PID
- Video PID
- Audio PID
- Program Number (Logical Channel Number)
- Output Transport ID
- Output Original Network ID (used only in big cable operator networks)

NOTE! When programming is ready, check the status of bit rate. “Fill” beam shows how many percentage of the maximum stream is used.



### 3.4 Other functions

In main menu you can select “Set Factory Defaults” .

#### 4. Technical specification

VIDEO ENCODER	MPEG-2 COMPLIANT TO ISO/IEC13818-2
Max. bitrate	14 Mbit/s
AUDIO ENCODER	MPEG audio layer 1/2
	Compliant to ISO/IEC11172-3
Max. bitrate	256 kbps
COFDM OUTPUT	
Modulation	IFFT 2k mode, QPSK, QAM16, QAM64
Output frequency range	114 MHz - 858 MHz
Quard Interval	1/32
FEC	1/2, 2/3, 3/4, 5/6, 7/8
Output level	85 - 105 dBuV
Data interface	USB 1
Input connector	6*RCA female, 1*mini DIN
Output connector	F-male 75 ohm
Power consumption	16VDC/0,6A
Dimensions	W*H*D 38mm*218mm*129mm
Mounting	RFT-800 system or stand alone





This symbol on the product or on its packing means that within the European Union the product must be taken to separate collection at the product-end-of life.

Do not dispose of these products as unsorted municipal waste.

For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your house disposal service or the shop where you purchased the product.